

AMENDMENTS TO THE CLAIMS

1. (Original) A method of increasing the production of starch in plants comprising culturing a plant with enhanced expression or activity of at least one starch biosynthesis enhancing protein.
2. (Original) The method of claim 1, wherein said starch has a high amylose content.
3. (Currently amended) The method as claimed in ~~either claim 1 or 2~~ claim 1, wherein production of amylose is increased.
4. (Currently amended) The method as claimed in ~~any one of claims 1 to 3~~ claim 1, wherein said method comprises over-expression of a starch biosynthesis enhancing protein.
5. (Original) The method as claimed in claim 4, wherein said protein comprises the SEQ ID NO: 2 or 4 or a protein derived from this sequence by substitution, insertion or deletion of amino acids and which has at least 50% identity at the amino acid level with SEQ ID NO: 2 or 4.
6. (Currently amended) The method as claimed in ~~any of claims 1 to 5~~ claim 1, wherein the starch biosynthesis enhancing protein is encoded by a nucleic acid sequence selected from the group consisting of:
 - a) a nucleic acid sequence comprising a nucleotide sequence which is at least 60% identical to the nucleic acid sequence of SEQ ID NO: 1 or 3;
 - b) a nucleic acid sequence comprising a fragment of at least 30 nucleotides of a nucleic acid sequence comprising the nucleotide sequence of SEQ ID NO:1 or 3;
 - c) a nucleic acid sequence which encodes a polypeptide comprising an amino acid sequence at least about 60% identical to the amino acid sequence of SEQ ID NO:2 or 4 and
 - d) a nucleic acid sequence which encodes a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO: 2 or 4 or wherein the fragment

comprises at least 10 contiguous amino acid residues of the amino acid sequence of SEQ ID NO:2 or 4,

7. (Currently amended) The method as claimed in ~~any one of claims 1 to 6~~ claim 1, wherein the starch biosynthesis enhancing protein is encoded by a nucleic acid sequence comprising the nucleotide sequence set forth as SEQ ID NO:1 or SEQ ID NO:3.

8. (Currently amended) The method as claimed in ~~any one of claims 1 to 7~~ claim 1, wherein deficiency or decreased activity is achieved by a method selected from the group consisting of:

- a) knock-out of the gene encoding said protein;
- b) mutagenesis of the gene encoding said protein, wherein said mutation can be induced in the coding, non-coding, or regulatory regions of said gene;
- c) expression of an anti-sense RNA, wherein said anti-sense RNA is complementary to at least part of the RNA encoding said protein;

9. (Original) A method of producing amylose type starch by culturing a plant which over-expresses SEQ ID NO:1 or 3 or has increased starch biosynthesis enhancing activity under conditions such that the plant produces an increased amount of amylose type starch.

10. (Currently amended) The method of ~~any of the preceding claims~~ claim 1, wherein said plant belongs to the genus Solanum.

11. (Original) The method of claim 10, wherein said plant is Solanum tuberosum.

12. (Original) A nucleic acid sequence SEQ ID NO:1 encoding a starch biosynthesis enhancing protein.

13. (Original) A nucleic acid sequence SEQ ID NO:3 encoding a starch biosynthesis enhancing protein.

14. (Original) An amino acid sequence SEQ ID NO:2 having starch biosynthesis enhancing activity.

15. (Original) An amino acid sequence SEQ ID NO:4 having starch biosynthesis enhancing activity.

16. (Original) A transgenic expression cassette comprising in combination with a regulatory sequence a nucleic acid sequence selected from the group consisting of:

- a) a nucleic acid sequence comprising a nucleotide sequence which is at least 60% identical to the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:3,
- b) a nucleic acid sequence comprising a fragment of at least 30 nucleotides of a nucleic acid sequence comprising the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:3,
- c) a nucleic acid sequence which encodes a polypeptide comprising an amino acid sequence at least about 60% identical to the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4, or
- d) a nucleic acid sequence which encodes a fragment of a polypeptide comprising the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4 wherein the fragment comprises at least 10 contiguous amino acid residues of the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4

wherein said regulatory sequence is capable of mediating expression of said nucleic acid sequence in a plant.

17. (Original) A transgenic expression cassette of claim 16, wherein said regulatory sequence is a promoter sequence heterologous with regard to said nucleic acid sequence.

18. (Original) A transgenic expression cassette of claim 16, wherein said regulatory sequence is a tuber specific promoter sequence.

19. (Currently amended) A transgenic expression cassette of ~~either claim 16, 17 or 18~~ claim 16, wherein said nucleic acid sequence is arranged in antisense or sense orientation with regard to said promoter sequence.

20. (Currently amended) A transgenic expression cassette of ~~any of the claims 16 to 19~~ claim 16, wherein said nucleic acid sequence encodes a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:4.
21. (Currently amended) A transgenic expression cassette of ~~any of the claims 16 to 20~~ claim 16, wherein said nucleic acid molecule comprises the nucleotide sequence set forth in SEQ ID NO:1 or SEQ ID NO:3.
22. (Currently amended) A transgenic expression cassette of ~~any of the claims 16 to 21~~ claim 16, wherein said nucleic acid sequence encodes a naturally occurring variant of a polypeptide comprising the amino acid sequence set forth in SEQ ID NO:2 or SEQ ID NO:4.
23. (Currently amended) A transgenic host cell transformed with an expression cassette of ~~any of the claims 16 to 22~~ claim 16.
24. (Original) A transgenic host cell of claim 23, wherein said host cell belongs to the genus *Solanum*.
25. (Currently amended) A transgenic plant comprising an expression cassette of ~~any of claims 16 to 22~~ claim 16.
26. (Currently amended) A transgenic potato plant comprising an expression cassette of ~~any of claims 16 to 22~~ claim 16.
27. (Currently amended) A transgenic potato plant, plant part, seed or tuber comprising an expression cassette of ~~any of claims 16 to 22~~ claim 16.